CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER No. 93 - 22
NPDES PERMIT CA0037401

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

DEPARTMENT OF PARKS AND RECREATION
ANGEL ISLAND STATE PARK
MARIN COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter called the Board) finds that:

1. The Department of Parks and Recreation (hereinafter the Department) needs waste discharge requirements and a reissuance of a permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES).

2. The California Department of Parks and Recreation (hereinafter the Department) operates the Angel Island State Park in Central San Francisco Bay, as well as the sewage collection and treatment facilities serving this park. These facilities treat the wastewater from up to 820 visitors per day in summer and 144 visitors per day in winter, with the average flow of 10,800 gallon per day (GPD) and 14,400 GPD respectively. This wastewater is mainly generated from public restrooms at Ayala Cove.

3. In mid-August 1986, the Department completed a rotating biological contractor (RBC) secondary treatment system for the pretreated effluent from the existing septic tanks. The secondary treatment system consists of a rotating biological contactor, secondary clarifier, an equalization tank, sludge removal facilities, and chlorination/dechlorination facilities.

4. The plant is governed by NPDES permit CA0037401/Waste Discharge Requirements in order No. 87-151.

5. Due to the extreme hazard and high maintenance cost of the chlorine/sulphur dioxide chlorination/dechlorination system, the discharger is planning to change to a sodium hypochlorite and sodium meta-bisulfate system in July 1993.

6. The State Water Resources Control Board (State Board) adopted the California Inland Surface Waters Plan and the California Bays and Estuaries Plan on April 11, 1991. These Plans identify water quality objectives for all inland surface waters and enclosed Bays and estuaries in the state, and strategy for implementation of the objectives. These plans require the water quality objectives to be implemented in discharger's Waste

Discharge Requirement permits.

7. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (referred to in this permit as the Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for Central San Francisco Bay and contiguous waters.

8. The Board adopted amendments to the Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on September 16, 1992. Approval by the State Board is pending. The amendments adopted by the Regional Board in September, 1992 are referred to below as the "Proposed Basin Plan".

10. The beneficial uses of Central San Francisco Bay in the vicinity of the outfall are:

    * Water contact recreation
    * Non-contact water recreation
    * Commercial and sport fishing
    * Wildlife habitat
    * Preservation of Habitat for rare and endangered species
    * Estuarine habitat
    * Fish migration and spawning
    * Shellfish harvesting
    * Navigation
    * Industrial service and process water supply

11. The Basin Plan prohibits the discharge of any wastewater which has particular characteristics of concern to beneficial uses at any point where wastewater does not receive an initial dilution of least 10:1.

12. This order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (California Environmental Quality Act) pursuant to Section 13389 of the California Water Code.

13. The Discharger and interested persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided an opportunity for a public hearing and the opportunity to submit their written views and recommendations.

14. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to the provisions of Division 7 of the California Water Code and regulations adopted thereunder, and to the provisions of the Federal Clean Water Act and regulations and guidelines adopted thereunder, that the Discharger shall comply with the following:

A. Prohibitions

1. The discharger is prohibited from bypassing or overflowing wastewater to waters of the State, either at the plant or from the collection system.

2. The discharger is prohibited from discharging wastewater at any point at which the wastewater does not receive an initial dilution of at least 10:1 (receiving water to wastewater flow).

3. The average dry weather flow shall not exceed the plant capacity of 25,000 gal/day plant. Average dry weather flow shall be determined over three consecutive dry weather months each year.

B. Effluent limitations

1. The discharge of an effluent containing constituents in excess of the following limits is prohibited:

	Constituents	Units	Monthly Average	Weekly Average	Daily Maximum	Instantaneous Maximum
a.	BOD	mg/l	30	45	60	-
b.	Suspended Solids	mg/l	30	45	60	-
c.	Oil & Grease	mg/l	10	-	20	-
d.	Settleable Solids	ml/l-hr	0.1	-	-	0.2
e.	Chlorine Residual	mg/l	-	-	-	0.0

f. Total Coliform Organisms
The waste as discharged, or at some place in the treatment process, shall meet or exceed the following limits of quality. The total coliform bacteria for a median of five consecutive effluent samples shall not exceed 240 per 100 milliliters. Any single sample shall not exceed a most probable number (MPN) of 10,000 total coliform when verified within 48 hours.

g. pH
The pH of the discharge shall not exceed 8.5 nor be less than 6.5.

h. Representative Samples of effluent shall not exceed the following limits:

(Daily Average)[a]

(all values are in ug/l)

Arsenic	360
Cadmium	92
Chromium (VI)[b]	500
Copper	37
Cyanide	25
Lead	53
Mercury	21
Nickel	65
Selenium	50
Silver	23
Zinc	840
Phenols	500
PAHs	150

[a] These limits are based on salt water quality objectives, technological achievability, limits of detection, and limited allowance for dilution. They are intended to be achieved through a combination of Best Available Technology and source control.

[b] Dischargers may at their option meet this limit as total chromium.

2. The arithmetic mean of the biochemical oxygen demand (5 day, 20°C) and suspended solids values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85% removal).

3. Acute toxicity:
Representative samples of the effluent shall meet the following limit for acute toxicity: [Provision D.4. of this Order describes bioassay methodology requirements]

   a. The survival of organisms in undiluted effluent shall be a 3-sample median value of not less than 90 percent survival, a single-sample maximum value of not less than 70 percent survival. The 3-sample median effluent limitation is defined as follows:

      - 3-sample median: if one of the past two or fewer samples show less than 90 percent survival, then survival of less than 90 percent of the next sample represents a violation of the effluent limitation.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:

    a. Floating, suspended, or deposited macroscopic particulate matter or foam;

    b. Bottom deposits or aquatic growths;

    c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;

    d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;

    e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.

2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:

    a. Dissolved Oxygen — 5.0 mg/l, minimum.

    The median dissolved oxygen concentration for any three consecutive months shall not be less than 80 percent of the dissolved oxygen content at saturation. When natural factors cause lesser concentrations than those specified above, then the discharge shall not cause further reduction in the ambient concentration of dissolved oxygen.

    b. Dissolved Sulfide — 0.1 mg/l, maximum.

    c. pH — Variation from normal ambient pH by more than 0.5 pH units.

    d. Un-ionized Ammonia — 0.025 mg/l as N, annual median; 0.16 mg/l as N, maximum.

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303

of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. Requirements prescribed by this order supersede the requirements prescribed by Order No. 87-151. Order No. 87-151 is hereby rescinded.

2. Where concentration limitations in mg/l or ug/l are contained in this Permit, the following Mass Emission Limitations shall also apply:

(Mass Emission Limit in kg/day) = (Concentration Limit in mg/l) x (Actual Flow in million gallons per day averaged over the time interval to which the limit applies) x 3.78 (conversion factor).

(Mass Emission Limit in kg/day) = (Concentration Limit in ug/l) x (Actual Flow in million gallons per day averaged over the time interval to which the limit applies) x 0.00378 (conversion factor).

3. The Discharger shall comply with all sections of this Order immediately upon adoption.

4. Bioassays:
Compliance with Effluent Limitation B.3 of this Order shall be evaluated by measuring survival of test fishes exposed to undiluted effluent for 96 hours. Each fish species represents a single sample. The discharger will conduct effluent toxicity tests with either three-spine stickleback or rainbow trout fish species for another 18 months or till the time the most sensitive fish species is determined by the Board from the screening test currently in process by the major dischargers.

5. The Discharger shall comply with the attached Self-Monitoring Program. The Board's Executive Officer may make minor amendments to this Self-Monitoring Program pursuant to federal regulations (40 CFR 122.63).

6. The Discharger shall comply with all applicable items of the attached "Standard Provisions and Reporting Requirements" dated December, 1986.

7. The Discharger shall review and update its Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year.

8. The Discharger shall review and update by December 31, annually, its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the Discharger has failed to develop and/or implement a contingency plan will be the basis for considering such a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.

9. In reviewing compliance with the limits of Effluent Limitations B.2 of this Order, the Board will take special note of the difficulties encountered in achieving compliance during periods of high wet weather flow and during periods when influent concentrations are low.

10. This Order expires March 17, 1998. The Discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.

11. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective ten days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objections. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on March 17, 1993.

STEVEN R. RITCHIE
Executive Officer

Attachments:
Location Map
Standard Provisions and Reporting
Requirements, December 1986
Self-Monitoring Program
SWRCB General Permit CAS000001
Board Resolution 74-10

[File No. 2159.5002]
[Originator/MEG]
[Reviewer/RJC]

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM

For

DEPARTMENT OF PARKS AND RECREATION

ANGLE ISLAND STATE PARK

MARIN COUNTY

NPDES PERMIT NO. CA0037401

ORDER NO. 93 - 22

I. DESCRIPTION OF SAMPLING AND OBSERVATION STATIONS

A. INFLUENT AND INTAKE

	Description
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

	Description
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which adequate contact with the disinfectant is assured.

C. RECEIVING WATERS

	Description
C-1 to C-5	See the attached map.

D. OBSERVATION STATIONS

P-1 to P-4	Located at the corners of the perimeter fenceline surrounding the treatment plant.
O-1 to O-n	Baypass or overflows from manholes, pump-stations or collection systems.

II. SCHEDULE OF SAMPLING AND ANALYSIS

The schedule of sampling and analysis shall be that given in Table I and Table 1 Footnotes.

III. MODIFICATION OF PART A, DATED DECEMBER 1986

Paragraph C.5 of Part A is revised to read:

Average monthly values are calculated as the sum of all measured discharges by weight (measured during the specified period i.e. calendar month), divided by the number of daily discharge values measured during that specified period.

IV. REPORTING REQUIREMENTS

A. General Report Requirements are described in Section C of this Board's "Standard Provisions and Reporting Requirements", dated December 1986.

B. Self-Monitoring Reports for each calendar month shall be submitted monthly, by the fifteenth day of the following month. The required contents of these reports are described in Section G.4 of Part A.

C. An Annual Report for each calendar year shall be submitted to the Board by February 15th of the following year. The required contents of the annual report are described in Section G.5 of Part A.

D. Any overflow, bypass or significant non-compliance incident that may endanger health or the environment shall be reported according to Sections G.1 and G.2 of Part A.

E. Revisions to the Discharger's Operations and Maintenance Manual, or a letter stating that no changes are needed shall be submitted to the Board by April 15 of each year (Provision E.16).

F. Revisions to the Discharger's Contingency Plan, or a letter stating that no changes are needed, shall be submitted to the Board by April 15 of each year (Provision E.17).

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedures set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No 93 - 22.

2. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the Discharger, and revisions will be authorized by the Executive Officer.

3. Is effective on the date shown below.

STEVEN R. RITCHIE
Executive Officer

Effective Date
March 17, 1993

Attachment:

A. Table I with Table I Footnotes

TABLE I
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

SAMPLING STATION	A-001		E-001		C	P	OV
TYPE OF SAMPLE	C-24	G	C-24	G	G	O	(1)
Flow Rate (MGD)	D		D				
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	M		W				(1)
Chlorine Residual and Dosage (mg/l & kg/day)			Cont. or every 2H				
Settleable Matter (ml/l-hr)				D			
Total Suspended Matter (mg/l & kg/day)	M		W				
Oil and Grease (mg/l & kg/day)				M(2)			
Coliform (Total) (MPN/100 ml) per req't				W(3)	M		(1)
Fish Toxicity 96-hr. TL % Survival in undiluted waste			Q				
Ammonia Nitrogen (mg/l & kg/day)			M				
Un-ionized Ammonia Nitrogen (mg/l & kg/day)							
Nitrate Nitrogen (mg/l & kg/day)							
Nitrite Nitrogen (mg/l & kg/day)							
Total Organic Nitrogen (mg/l & kg/day)							
Total Phosphate (mg/l & kg/day)							
Turbidity (Jackson Turbidity Units)							
pH (units)				D			
Dissolved Oxygen (mg/l and % Saturation)				D			
Temperature (°C)				D			
Conductivity (mMho/cm)				D			
Apparent Color (color units)							
Secchi Disc (inches)							
Sulfides (if DO < 0.2 mg/l) Total and Dissolved (mg/l)				D			
Arsenic (mg/l & kg/day)				5Y			
Cadmium (mg/l & kg/day)				5Y			
Chromium, Total (mg/l & kg/day)				5Y			

TABLE I (Continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYST

SAMPLING STATION	A-001		E-001		C	P	O
TYPE OF SAMPLE	C-24	G	C-24	G	G	O	O
Copper (mg/l & kg/day)				5Y			
Cyanide (mg/l & kg/day)				5Y			
Silver (mg/l & kg/day)				5Y			
Lead (mg/l & kg/day)				5Y			
Mercury (mg/l & kg/day)				5Y			
Nickel (mg/l & kg/day)				5Y			
Zinc (mg/l & kg/day)				5Y			
Phenolic Compounds (mg/l & kg/day)				5Y			
All Applicable Standard Observations						W	E

LEGEND FOR TABLE

TYPE OF SAMPLES

G = grab sample
C - 24 = Composite sample - 24 hour
C-X = Composite sample - X hour (used when discharge does not continue for 24-hour period)
Cont = Continuous sampling
O = Observation

TYPE OF STATIONS

A = Treatment facility influent stations
E = Waste effluent stations
C = Receiving water stations
P = Treatment facilities perimeter stations
OV = Overflow or Bypass points

FREQUENCY OF SAMPLING

H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year
E = each occurrence
2/H = twice\e per hour
2/W = 2 days per week
2/M = 2 days per month
2/Y = once in March and once in September
Q = Quarterly, once in March, June, September, and December
2H = every 2 hours
2D = every 2 day
2W = every two weeks
3M = every three months
Cont = continuous

FOOTNOTES TO TABLE I

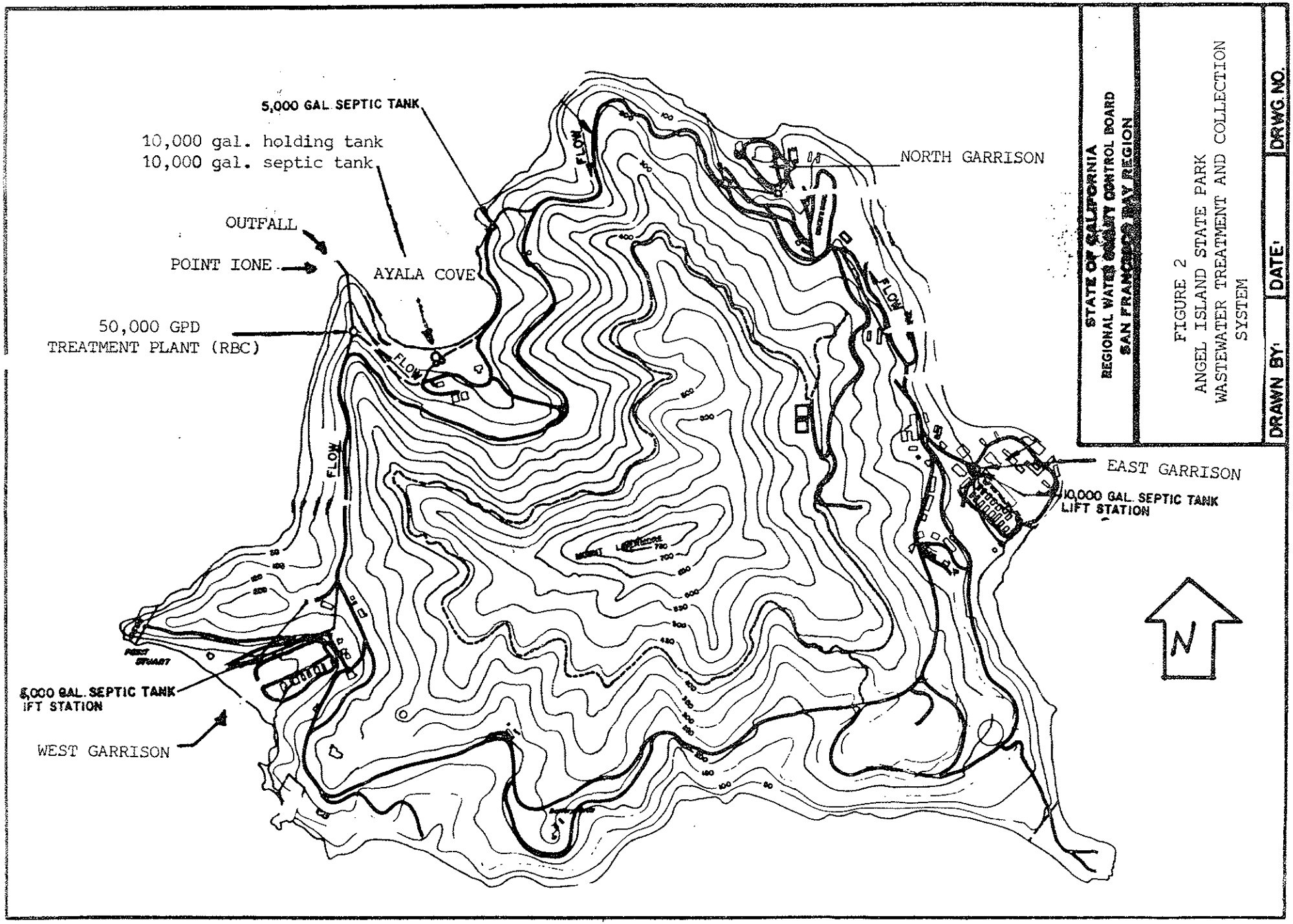
(1) Overflows:

(a) Flow: For all overflow events greater than 1000 gallons, a best estimate of the total overflow volume (gallons) shall be reported.

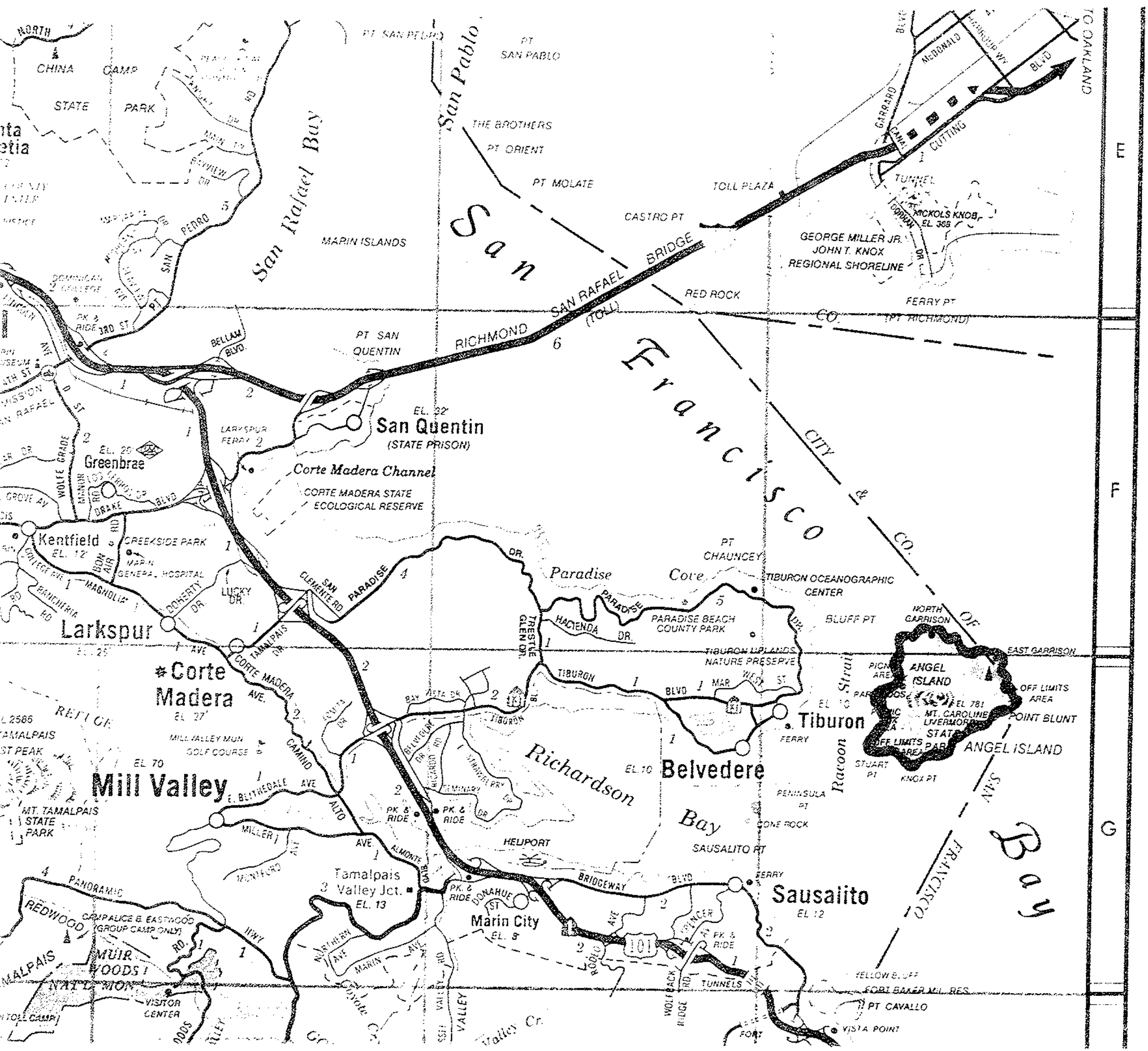
(b) BOD & Coliform: For any overflow event which involves discharge of wastewater to any surface water or waterway (including dry streams and drainage channels), grab samples should be taken and analyzed for BOD, and both Total and Fecal Coliform.

(2) Oil and Grease: Each Oil and Grease sample shall consist of three grab samples taken at equal intervals, no later than two hours apart, during the sampling day. Each grab sample shall be collected in a separate glass container. A composite shall be made using equal volume of each grab.

(3) If the total coliform count exceeded 240 MPN/100, the discharger shall immediately resample for another measurement.



Ref. Angel Island Wastewater Treatment and Disposal, Facilities Plan and



San Rafael Bay
San Pablo
San Francisco Bay
Richardson Bay
Racoon Strait
Corte Madera Channel
CORTE MADERA STATE ECOLOGICAL RESERVE
San Quentin
(STATE PRISON)
EL. 22'
PT SAN QUENTIN
MARIN ISLANDS
THE BROTHERS
PT ORIENT
PT MOLATE
PT SAN PABLO
CASTRO PT
TOLL PLAZA
RICHMOND SAN RAFAEL BRIDGE
(TOLL)
RED ROCK
GEORGE MILLER JR. JOHN T. KNOX REGIONAL SHORELINE
FERRY PT
(PT RICHMOND)
NICKOLS KNOB EL. 388
CITY & CO. OF SAN FRANCISCO
CHINA CAMP STATE PARK
Greenbrae
Kentfield
EL. 12'
Larkspur
Corte Madera
EL. 27'
Mill Valley
EL. 70
MT. TAMALPAIS STATE PARK
Tamalpais Valley Jct.
EL. 13
Marin City
EL. 8'
Sausalito
EL. 12
Belvedere
EL. 10
Tiburon
Paradise Cove
PT CHAUNCEY
TIBURON OCEANOGRAPHIC CENTER
BLUFF PT
PARADISE BEACH COUNTY PARK
TIBURON UPLANDS NATURE PRESERVE
ANGEL ISLAND
NORTH GARRISON
EAST GARRISON
OFF LIMITS AREA
POINT BLUNT
MT. CAROLINE LIVERMORE
EL 781
STUART PT
KNOX PT
PENINSULA PT
CONE ROCK
SAUSALITO PT
HELIPORT
YELLOW BLUFF
FORT BAKER MIL. RES.
PT CAVALLO
VISTA POINT
MUIR WOODS NAT'L MON.
VISITOR CENTER
CAMP ALICE E. EASTWOOD (GROUP CAMP ONLY)
MILL VALLEY MUN GOLF COURSE
CREEKSIDE PARK
MARIN GENERAL HOSPITAL
LARKSPUR FERRY
PK & RIDE
TUNNELS
101
TO OAKLAND
E
F
G